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METHOD FOR PROVIDING MULTIMEDIA INFORMATION RELATED TO A CALLING PARTY AT
CALL SET UP**Field of invention**

The invention relates to a method for providing multimedia information in a call setup
5 procedure.

Description of prior art

Providing a calling party number to a called party is a feature of an ISDN (Integrated
Services Digital Network) telephony network that permits a called party to get
10 information about a caller before the call is finally set up. By this the called party can e.g.
decide on the urgency of the call. In the current time the capabilities of mobile phones
have been enhanced to enable the presentation of multimedia information such as
pictures, videos and pieces of music to a user of a mobile phone. These capabilities have
been used to present a picture of a caller that has been stored in relation to a calling party
15 number in a database to a user of a called terminal. When a call setup message
comprising a calling party number is received in the called terminal, the picture of the
calling party is determined according to the calling party number from the database and
the picture is presented to the user of the called terminal. However the success of this
method to present a caller picture to a user of a called terminal depends on the content of
20 the database storing the picture of a subscriber in relation to her/his MSISDN (Mobile
Station Integrated Services Digital Network) number. The method fails if an unknown
subscriber calls a called party for a first time, or if the caller has a new subscription.

Summary of the invention

It is object of the invention to overcome the above shortcomings of the state of the art and to present a method to provide multimedia information related to a calling party to a user of a called party's terminal as well as to provide multimedia information related to called
5 party to the user of a calling party's terminal. This object is solved by the methods of claim 1, claim 6, claim 11, claim 12 and claim 13, the mobile stations of claim 14 and claim 15, the core network node of claim 16, the network server of claim 17 and the network database of claim 18. Advantageous embodiments are described in the dependant claims.

10 According to the present invention a method for providing multimedia information related to a calling party to a user of a called party's terminal is presented. The method comprises the steps of: receiving at call setup in the called party's terminal a first message comprising information enabling presenting of multimedia information related to the calling party and an identification of the multimedia information, storing the
15 information enabling the presenting of the multimedia information related to the identification of the multimedia information, receiving in the called party's terminal a call setup message comprising the identification of the multimedia information, retrieving the multimedia information according to the identification of the multimedia information, and presenting the multimedia information to the user of the called party's terminal.

20 Multimedia information related to a calling party can be e.g. a picture, a video sequence, an audio stream, or a ring tone related to the calling party. It is an advantage of the proposed method that the multimedia information to be presented to the called party can be updated flexibly and can be controlled by the caller.

In an advantageous embodiment of the invention the first message comprises the
25 multimedia information and the multimedia information is stored related to the received identification. This is a simple method for providing the multimedia information.

In another advantageous embodiment of the proposed method the first message comprises a network address enabling retrieving of the multimedia information, the network address is stored related to the identification of the multimedia information, the network address is retrieved according to the identification of the multimedia information
5 upon reception of the call setup message and the multimedia information is retrieved using the network address.

It is an advantage of this embodiment that the called party's terminal can control the reception of the multimedia information. Furthermore the first message can be sent by a terminal, that does not store the multimedia itself. Thus the number of subscribers
10 capable of presenting multimedia information to a called party at call setup is enlarged.

The multimedia information can be a calling line identity. The calling line identity is a well-known identification of the calling party that is already used in a call setup procedure.

The first message can comply with a packet switched protocol and the call setup message
15 can be appropriate for setting up a circuit switched call. By this multimedia information can be presented in a call set up of a call that is not suitable for transmitting multimedia information.

The invention is further related to a method for providing multimedia information related to a called party to a user of a calling party's terminal. The method comprises the
20 following steps performed by the terminal: storing at call set up an identification of the called party, sending a call setup message towards the called party's terminal, receiving a further message comprising information enabling presenting of multimedia information related to the called party and a further identification of the called party, comparing the stored and the further identification of the called party, retrieving the multimedia
25 information according to the result of the comparison, and presenting the multimedia information to the user of the calling party's terminal.

In an advantageous embodiment of this method the further message comprises the multimedia information. This is a simple method for providing the multimedia information.

In another advantageous embodiment of the proposed method, the further message
5 comprises a network address enabling retrieving of the multimedia information, and the multimedia information is retrieved using the network address. By this the further message can be sent by a terminal, that does not store the multimedia itself. Thus the number of subscribers capable of presenting multimedia information to a calling party at call setup is enlarged.

10 The identification of the called party can be a called party number. The called party number is a well-known identification of the called party that is already used in a call setup procedure.

The call setup message can be appropriate for setting up a circuit switched call and the further message can comply with a packet switched protocol.

15 A further aspect of the invention is a method for providing multimedia information related to a called party to a user of a calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal. The method is performed by a core network node storing or having access to subscriber data of the called or the calling party. The subscriber data comprises an indication for a demand for
20 presenting the multimedia information. The method comprises the steps of: receiving in the core network node a call set up message comprising an identification of the called or the calling party, recognizing according to the subscriber data and the received identification of the called or the calling party the demand for providing the multimedia information, and initiating the providing of the multimedia information.

25 It is advantageous of this method that multimedia information related to a called party can be presented to a calling party also if the terminal of the called party is not capable of sending a message that enables retrieving of multimedia information. Thus the number of

subscribers capable of presenting multimedia information to a calling party at call setup is increased.

The invention further relates to a method for providing by a network server multimedia information related to a called party to a user of a calling party's terminal or multimedia information related to a calling party to a user of a called party's terminal. The method comprises the steps of: receiving during a call setup in the network server a first message comprising a first identification of the called or the calling party, determining according to the received first identification information enabling presenting of the multimedia information related to the called or calling party and a further identification of the called or the calling party, sending a further message comprising the information enabling the presenting of the multimedia information and an identification of the called or calling party towards the respective other party's terminal.

A further aspect of the invention is a method for providing by a network database multimedia information related to a called party to a user of calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal. The network database stores information enabling presenting of multimedia information related to the called or the calling party. The information enabling the presenting of the multimedia information is accessible via an identification of the called or the calling party and the method comprises the steps of: receiving a request for the information enabling the presenting of the multimedia information, the request comprising the identification of the called or the calling party, retrieving the stored information enabling the presenting of the multimedia information using the received identification, and providing the information enabling the presenting of the multimedia information.

A further object of the invention is a mobile station for providing multimedia information related to a calling party during a call setup. The mobile station is provided with an interface for receiving messages, a processing system for processing said messages and an output device for presenting the multimedia information to a user of the mobile

station. In the invented mobile station the processing system is adapted to process a received first message comprising information enabling presenting of the multimedia information related to the calling party and an identification of the multimedia information at call set up. The mobile station is further provided with a memory for
5 storing the information enabling the presenting the multimedia information related to the identification of the multimedia information. The processing system is adapted to process a received call setup message comprising the identification of the multimedia information, to retrieve the multimedia information according to the identification of the multimedia information, and to initiate presenting the multimedia information to the user
10 of the mobile station via the output device.

The invention further relates to a mobile station for providing multimedia information related to a called party during a call setup. The mobile station is provided with an interface for receiving messages and an interface for sending messages comprising a call set up message towards a called party's terminal, and an output device for presenting the
15 multimedia information to a user of the mobile station. The invented mobile station comprises a processing system that is adapted to store at call set up a first identification of the called party, to process a received further message comprising information enabling presenting of the multimedia information and a further identification of the called party, to compare the first and the further identification of the called party and,
20 according to the result of the comparison, to initiate presenting the multimedia information to the user of the mobile station via the output device.

The invention further relates to a core network node for providing multimedia information related to a called party to a user of calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal.
25 The invented core network node comprises means for storing or providing access to subscriber data of the called or the calling party, the subscriber data comprising an indication for a demand for presenting the multimedia information. The core network node further comprises an interface for sending messages, an interface for receiving messages, and a processing system for processing said messages. The processing system

is adapted to process a received call set up message comprising an identification of the called or the calling party, to recognize according to received identification of the called or the calling party the demand for the providing of the multimedia information, and to initiate the providing of the multimedia information.

- 5 A further object of the invention is a network server for providing multimedia information related to a called party to a user of calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal. The server comprises interfaces for sending and receiving messages and a processing system for processing said messages. The processing system is adapted to process a first
10 message received during a call setup and comprising a first identification of the called or the calling party, to determine according to the received first identification information enabling presenting of the multimedia information related to the called or the calling party and a further identification of the called or calling party, and to initiate a sending of a further message comprising the information enabling the presenting of the multimedia
15 information and the further identification of the called or the calling party towards the respective other party's terminal.

- A further object of the invention is a network database for providing multimedia information related to a called party to a user of a calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal.
- 20 The network database comprises a storage for storing information enabling presenting of multimedia information related to a subscriber, wherein the information enabling the presenting of the multimedia information is accessible from the storage via an identification of the subscriber. The network database further comprises an interface for sending, an interface for receiving messages and a processing system for processing said
25 messages. The processing system is adapted to process a received request for the information enabling the presenting of the multimedia information, the request comprising the identification of the subscriber, to retrieve the stored information enabling the presenting of the multimedia information from the storage using the received identification of the subscriber, and to provide the information enabling the presenting of

the multimedia information.

Brief description of the drawings

- Fig. 1 depicts a message flow between a calling party's terminal, a called party's terminal, and a web server in which multimedia information related to the calling party is provided to the called party and in which multimedia information related to the called party is provided to the calling party.
- Fig. 2 depicts a message flow between a calling party's terminal and a called party's terminal, in which multimedia information related to the calling party is provided to the called party
- Fig. 3 depicts a message flow between a calling party's terminal and a called party's terminal in which multimedia information related to the called party is provided to the calling party.
- Fig. 4 depicts a mobile station according to the invention.
- Fig. 5 depicts a core network node according to the invention.
- Fig. 6 depicts a network server according to the invention.
- Fig. 7 depicts a network database according to the invention.

Detailed description of embodiments

- In the following the invention is described in more detail by means of embodiments and figures. Equal reference signs indicate equal elements.

Figure 1 depicts a calling party's terminal MS-A, a called party's terminal MS-B, and a web server WS. Furthermore figure 1 depicts messages that are exchanged during a call set up that contribute to a providing of multimedia media information related to the called

party respectively the calling party. For simplicity reasons steps performed in an access network or a core network performed for call set-up are not described.

A call is set up from a calling party's terminal MS-A to a called party's terminal MS-B. The called party's terminal MS-A and the calling party's terminal MS-B are capable of
5 presenting multimedia information to a user. Multimedia information can be a picture or a video sequence related to a subscriber, a piece of music or a sequence of tones. The calling party's terminal MS-A and the called party's terminal MS-B can be mobile terminals for a GPRS (General Packet Radio System) network or a UMTS (Universal Mobile Telecommunication System) network. Optionally the web server WS can store
10 and provide the multimedia information to the calling party's terminal MS-A respectively the called party's terminal MS-B.

The calling party's terminal MS-A sends at call setup a first message 11 to the called party's terminal MS-B. The first message 11 comprises information enabling retrieving of multimedia information related to the calling party and an identification of the
15 multimedia information. The information enabling retrieving multimedia information can be the multimedia information itself or a network address enabling retrieving of the multimedia information. The network address enabling retrieving of multimedia information can be a URL (Uniform Resource Locator). The identification of the multimedia information can be an identification of the calling party's terminal MS-A, an
20 identification of the calling party subscriber or a temporary identification of the multimedia information that is used for the purpose of the call set up only. The identification of the calling party's terminal MS-A can be a calling line identity such as a number compliant with the E.164 specification of the International Telecommunication Union. The first message 11 can comply with the SIP (Session Initiation Protocol).

25 The calling party's terminal MS-A can be configured such that the first message 11 is sent depending on the calling line identity. Furthermore the calling party's terminal MS-A can be configured such the multimedia information that can be retrieved from the information of the first message 11 can be dependent on the calling line identity. To configure the calling party's terminal MS-A an address book can be used.

The information enabling retrieving of multimedia information is stored related to the identification of the multimedia information in a step 40 by the called party's terminal MS-B.

5 The called party's terminal MS-B acknowledges the reception of the first message 11 in a first acknowledgement message 12 to the calling party's terminal MS-A.

The calling party's terminal MS-A can store an identification of the called party at call set up in a step 50. Preferably this identification of the called party is a called party number that complies with the E.164 specification of the International Telecommunication Union.

10 The calling party's terminal MS-A sends a call setup message 21 to the called party's terminal MS-B. The call setup message comprises an identification of the calling party such as a calling line identification complying with the E.164 specification of the International Telecommunication Union. Furthermore the call setup message 21 comprises an identification of the called party such as the called party number complying
15 with the E.164 specification of the International Telecommunication Union. The identification of the calling party can serve as identification of for the multimedia information related to the calling party. Optionally the call setup message 21 can comprise an identification of the multimedia information related to the calling party, that is not an identification of the calling party.

20 Upon reception of the call setup message 21, the multimedia information related to the calling party is retrieved according to the received identification of the multimedia information. I.e. if the multimedia information related to the calling party itself has been stored in the called party's terminal MS-B in the step 40, the multimedia information is retrieved from the storage in the called party's terminal MS-B. If a network address
25 enabling retrieving of the multimedia information has been stored in the called party's terminal MS-B, the network address is retrieved according to the identification of the multimedia information, and the multimedia information is retrieved using the network address. The multimedia information can be e.g. stored related to a Uniform Resource Locator (URL), the network address in this case, by a web server WS. The multimedia

information is then requested in a first request message 61 from the called party's terminal MS-B to the web server WS, and returned to the called party's terminal MS-B in a first response 62 by the web server WS. The multimedia information related to the calling party is presented to the user of the called party's terminal MS-B.

- 5 The called party's terminal MS-B sends a further message 31, that comprises information enabling retrieving of multimedia information related to the called party and an identification of the called party to the calling party's terminal MS-A. The identification of the called party can be a called party number complying with the E.164 specification of the International Telecommunication Union. Preferably the called party's terminal
- 10 MS-B is configurable such that the further message 31 is sent depending on the calling line identification received in the call setup message. Furthermore the called party's terminal MS-B is advantageously configurable such that the multimedia information that can be retrieved using the information of the further message 31 is dependent on the calling line identification. To configure the calling party's terminal MS-B an address
- 15 book is advantageously used.

The further message 31 can be a SIP (session initiation protocol) message. The information enabling retrieving multimedia information can be the multimedia information itself or a network address enabling retrieving of the multimedia information. The network address enabling retrieving of multimedia information can be a URL

20 (Uniform Resource Locator) or a network address of a node optionally plus an identification of the multimedia information.

The received identification of the called party and the identification of the called party stored at call setup are compared in the calling party's terminal MS-A. If the received

25 identification and the identification stored at call set up are identical, multimedia information related to the called party is retrieved by the calling party's terminal MS-A. Either the multimedia media information is retrieved from the further message 31 or, if a network address enabling retrieving of multimedia information has been comprised in the further message 31, the multimedia information is retrieved using the network address.

30 The multimedia information can be e.g. stored related to a Uniform Resource Locator

(URL), the network address in this case, by the web server WS. The multimedia information is then requested in a second request message 71 from the calling party's terminal MS-A to the web server WS, and returned to the calling party's terminal MS-A in a second response message 72 by the web server WS. In the second request message 5 71 the URL for the multimedia information is included. Afterwards the multimedia information related to the called party is presented to the user of the calling party's terminal MS-A.

The calling party's terminal MS-A acknowledges the reception of the further message 31 in a further acknowledgement 32 to the called party's terminal MS-B.

10 The called party's terminal MS-B acknowledges the reception of the call setup message 21 in a call setup acknowledgement 22 to the calling party's terminal MS-A.

Figure 2 shows a further embodiment of the invention in which multimedia information related to a calling party is presented to the user of a called party's terminal. In the embodiment of figure 2 the calling party's terminal can be a terminal that is not able to 15 sent multimedia information itself. In that embodiment a service network SN2 is used to sent the multimedia information respectively to determine the multimedia information to be sent.

Figure 2 depicts a network comprising a calling party's terminal MS-A2, a called party's terminal MS-B2, a core network node CNA2 administrating the calling party's terminal 20 MS-A2 and a service network SN2 for providing the multimedia information to the calling party's terminal. The service network SN2 comprises a network server and a network database. In a preferred embodiment the core network node CNA2 stores or has access to subscriber data of the calling subscriber, wherein the subscriber data comprises an indication for a demand for providing a service. The network database within the 25 service network SN2 stores information enabling a presenting of the multimedia information related to the calling party, wherein the information enabling the presenting of the multimedia information is accessible via an identification of the calling party.

Figure 2 further depicts a sequence of messages exchanged between the depicted entities of the network and processing steps to be performed by the network entities. In a call set up procedure 201 between the calling party's terminal MS-A2 and the core network node CNA2 a call from the calling party's terminal MS-A2 to the called party's terminal MS-B2 is initiated. The call set up procedure 201 comprises a sending of an identification of the calling party, e.g. a calling party number related to the calling party's terminal MS-A2 and a called party number related to the called party's terminal MS-B2. In the core network node CNA2 a demand for providing a service called party's terminal is recognized in a step 202. This recognizing can be performed in the core network node CNA2 based on a trigger received in the call set up message or this recognizing can be based on the identification of the calling party and on subscriber data stored related the calling party by the core network node CNA2. Said subscriber data can be related to an IN (intelligent network) subscription or a CAMEL (Customized Applications for Mobile network Enhanced Logic) subscription of the calling party. To initiate the providing of the service calling party's terminal the core network node (CNA2) sends a message 203 to the network server in the service network SN2, the message 203 comprising an identification of the calling party's terminal MS-A2 e.g. the calling party number and the called party number. The network server recognizes according to the received message 203, that the service to be provided comprises a presenting of multimedia information that is related to the calling party to the user of the called party's terminal MS-B2. Furthermore the network server determines according to the identification of the calling party information enabling presenting of multimedia information related to the calling party and an identification of the multimedia information. To that end the network server can send a request for the information enabling the presenting of the multimedia information to the network database, wherein the request comprises the identification of the calling party. Upon the reception of the request the network database retrieves the stored information enabling the presenting of the multimedia information using the received identification of the calling party. The network database provides the information enabling the presenting of the multimedia information to the network server.

The information enabling the presenting of the multimedia information can be the multimedia information itself or a network address enabling the presenting of the

multimedia information. The network address enabling retrieving of multimedia information can be a URL (Uniform Resource Locator). The identification of the multimedia information can be an identification of the calling party's terminal MS-A2, an identification of the calling party subscriber or an identification of the multimedia information that is used for the purpose of the call set up. The identification of the calling party's terminal MS-A2 can be a calling line identity such as a number compliant with the E.164 specification of the International Telecommunication Union. The network server sends a message 204 comprising the information enabling the presenting of the multimedia information related to the calling party and the identification of the multimedia information towards the called party's terminal MS-B2. The message 204 can comply with the SIP (Session Initiation Protocol). The message 204 further comprises the called party number.

The information enabling the presenting of the multimedia information is stored related to the identification of the multimedia information by the called party's terminal MS-B2.

The called party's terminal MS-B2 can acknowledge the reception of the message 204 in an acknowledgement message 205 to the service network SN2.

Upon reception of the acknowledgement message 205 the service network can trigger the core network node CNA2 to proceed with the call setup in a trigger message 206.

The call set up is completed in a call setup completion procedure 207.

During the call setup completion procedure 207 the calling party's terminal MS-A2 sends a call setup message to the called party's terminal MS-B2. The call setup message comprises an identification of the calling party such as a calling line identification complying with the E.164 specification of the International Telecommunication Union. Furthermore the call setup message comprises an identification of the called party such as the called party number complying with the E.164 specification of the International Telecommunication Union. Optionally the call setup message can comprise the identification of the multimedia information related to the calling party, that is not an identification of the calling party.

Upon reception of the call setup message the multimedia information related to the calling party is retrieved according to the stored identification of the multimedia information. I.e. if the multimedia information related to the calling party itself has been stored in the called party's terminal MS-B2, the multimedia information is retrieved from the storage in the called party's terminal MS-B2. If a network address enabling retrieving of the multimedia information has been stored in the called party's terminal MS-B2, the network address is retrieved according to the identification of the multimedia information, and the multimedia information is retrieved using the network address. The multimedia information can e.g. be stored related to a Uniform Resource Locator (URL), the network address in this case, by a web server. The multimedia information can then be requested by the called party's terminal MS-B2 from the web server using the URL, and returned to the called party's terminal MS-B2 by the web server WS. The multimedia information related to the calling party is presented to the user of the called party's terminal MS-B2.

Figure 3 shows a further embodiment of the invention in which multimedia information related to a called party is presented to the user of a calling party's terminal. In the embodiment of figure 3 the called party's terminal can be a terminal that is not able to send multimedia information itself. In the embodiment depicted in figure 3 a service network SN3 is used to send the multimedia information respectively to determine the multimedia information to be sent.

Figure 3 depicts a network comprising a calling party's terminal MS-A3, a called party's terminal MS-B3, a core network node CNB3 administrating the called party's terminal MS-B3 and a service network SN3 for providing the multimedia information to the calling party's terminal MS-A3.

The service network comprises a network server and a network database. In a preferred embodiment the core network node CNB3 stores or has access to subscriber data of the called subscriber, wherein the subscriber data comprises an indication for a demand for providing a service. The network database within the service network stores information enabling a presenting of the multimedia information related to the called party, wherein

the information enabling the presenting of the multimedia information is accessible via an identification of the called party.

Figure 3 further depicts a sequence of messages exchanged between the depicted entities of the network and processing steps to be performed by the network entities. In a call set up procedure 301 between the calling party's terminal MS-A3 and the core network node CNB3 a call from the calling party's terminal MS-A3 to the called party's terminal MS-B3 is initiated. In the call set up procedure 301 a called party number related to the called party's terminal MS-B3 and a calling party number related to the calling party's terminal MS-A3 is transmitted to the core network node CNB3.

10 The calling party's terminal MS-A3 stores an identification of the called party at call set up. Preferably this identification of the called party is a called party number that complies with the E.164 specification of the International Telecommunication Union.

In the core network node CNB3 a demand for providing a service is recognized in a step 302. This recognizing can be performed in the core network node CNB3 based on
15 subscriber data stored related to the user of the called party's terminal MS-B3 by the core network node CNB3. Said subscriber data can be related to an IN (intelligent network) subscription or a CAMEL (Customized Applications for Mobile network Enhanced Logic) subscription of the called party's terminal MS-B3 user. To initiate the providing of the service the core network node sends a message 303 to the network server in the
20 service network SN3, the message 303 comprising a first identification of the called party's terminal MS-B3 e.g. the called party number. Furthermore the message 303 comprise the calling party number.

The network server recognizes according to the received message 203, that the service to be provided comprises a presenting of multimedia information that is related to the called
25 party to the user of the calling party's terminal MS-A3. Furthermore the network server determines according to the identification of the called party's terminal MS-B3 information enabling presenting of multimedia information related to the called party and, optionally a further identification of the called party's terminal MS-B3.

To that end the network server can send a request for the information enabling the presenting of the multimedia information to the network database, wherein the request comprises the identification of the called party. Upon reception of the request the network database retrieves the stored information enabling the presenting of the multimedia information using the received identification of the called party. The network database provides the information enabling the presenting of the multimedia information to the network server.

The information enabling the presenting of the multimedia information can be the multimedia information itself or a network address enabling retrieving of the multimedia information. The network address enabling retrieving of multimedia information can be a URL (Uniform Resource Locator). The identification of the called party's terminal MS-B3 can be a called party number such as a number compliant with the E.164 specification of the International Telecommunication Union.

The network server sends a message 304 comprising the information enabling the presenting of the multimedia information related to the called party and an identification of the called party's terminal MS-B3 to the calling party's terminal MS-A3. In case the further identification of the called party has been determined, the further identification is used as the identification of the called party's terminal MS-B3..

The message 304 can comply with the SIP (Session Initiation Protocol).

The received identification of the called party and the identification of the called party stored at call setup are compared in the calling party's terminal MS-A3. If the received identification and the identification stored at call set up are identical, multimedia information related to the called subscriber is retrieved by the calling party's terminal MS-A3. Either the multimedia media information is retrieved from the message 304 or, if a network address enabling retrieving of multimedia information has been comprised in the message 304, the multimedia information is retrieved using the network address. The multimedia information can be e.g. stored related to a Uniform Resource Locator (URL), the network address in this case, by a web server. The multimedia information can then

be requested by the calling party's terminal MS-A3 from the web server and returned to the calling party's terminal MS-A3 in a response by the web server. In the request to the web server the URL for the multimedia information can be used. The multimedia information related to the called party is presented to the user of the calling party's terminal MS-A3.

The calling party's terminal MS-A3 can acknowledge the reception of the message 304 in an acknowledgement message 305 to the service network SN3.

Upon reception of the acknowledgement message 305 the service network can trigger the core network node CNB3 to proceed with the call setup in a trigger message 306.

10 The call set up is completed in a call setup completion procedure 307.

Fig. 4 depicts a mobile station MS for providing multimedia information related to a calling party as well as multimedia information related to a called party during a call setup. The mobile station MS is provided with a first interface RI1 for receiving messages, a second interface SI1 for sending messages, a processing system PS1 for processing messages, a memory device MD, and an output device OD for presenting the multimedia information to a user of the mobile station. The processing system PS1 is connected to the first interface RI1, to the second interface SI1, the memory device MD and to the output device OD for message exchange. The processing system PS1 is adapted to process a first message received at a call set up, wherein the first message comprises information enabling presenting of the multimedia information related to the calling party and an identification of the multimedia information. The memory device MD is adapted to store the information enabling the presenting the multimedia information related to the identification of the multimedia information. The processing system PS is adapted to process a received call setup message comprising the identification of the multimedia information, to retrieve the multimedia information according to the identification of the multimedia information from the memory device MD, and to initiate presenting the multimedia information to the user of the mobile station via the output device OD.

Furthermore the processing system PS is adapted to store at call set up a first identification of the called party, and to process a further message comprising information enabling presenting of the multimedia information related to the called party and a further identification of the called party, wherein the further message is received
5 via the first interface RI1. The processing system is further adapted to compare the first and the further identification of the called party and, according to the result of the comparison, to initiate presenting the multimedia information to the user of the mobile station MS via the output device OD.

10 Figure 5 depicts a core network CNN node for providing of multimedia information related to a called party to a user of calling party's terminal or for providing of multimedia information related to a calling party to a user of a called party's terminal. The core network node CNN comprises a subscriber data storage SDS storing subscriber data of the called or the calling party subscriber, the subscriber data comprising an
15 indication for a demand for presenting the multimedia information. Furthermore the core network node CNN comprises a first interface RI2 for receiving messages, a second interface SI2 for sending messages, and a processing system PS2 for processing messages. The processing system PS2 is connected to the first interface RI2, to the second interface SI2, and the subscriber data storage SDS for message exchange. The
20 processing system PS2 is adapted to process a call set up message received via the first interface RI2, wherein the call set up message comprises an identification of the called or the calling party subscriber. The processing system PS is further adapted access the subscriber data storage SDS to recognize according to received identification of the called or the calling party subscriber the demand for the providing of the multimedia
25 information. According to this recognizing of the demand for the providing of the multimedia information, the processing system PS2 is adapted to initiate the providing of the multimedia information.

Figure 6 depicts a network server NS for providing multimedia information related to a called party to a user of calling party's terminal or for providing multimedia information
30 related to a calling party to a user of a called party's terminal. The network server NS comprises a first interface RI3 for receiving messages, a second interface SI3 for sending

messages, and a processing system PS3 for processing messages. The processing system PS3 is connected to the first interface RI3 and to the second interface SI3 for message exchange. The processing system PS3 is adapted to process a first message received via the first interface RI3 during a call setup and comprising a first identification of the called or the calling party. The processing system PS is further adapted to determine according to the received first identification information enabling presenting of the multimedia information related to the called or the calling party and a further identification of the called or calling party. The processing system PS3 is adapted to initiate a sending of a further message via the second interface SI3 towards the respective other party's terminal. The further message comprises the information enabling the presenting retrieving of the multimedia information and the further identification of the called or the calling party.

Figure 7 depicts a network database NDB for providing multimedia information related to a called party to a user of calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal. The network database NDB comprises a storage unit DS4 for storing information enabling presenting of multimedia information related to a subscriber, the information enabling the presenting retrieving of the multimedia information being accessible from the storage via an identification of the subscriber. The network database NDB further comprises a first interface RI4 for receiving messages, a second interface SI4 for sending messages and a processing system PS4 for processing messages. The processing system PS4 is connected to the first interface RI4, to the second interface SI4 and to the storage unit DS4 for message exchange. The processing system is adapted to process a request for the information enabling the presenting of the multimedia information wherein the request is received via the first interface RI4 and the request comprises the identification of the subscriber. The processing system PS4 is further adapted to retrieve the stored information enabling the presenting retrieving of the multimedia information from the storage unit DS4 using the received identification of the subscriber, and to provide the information enabling the presenting of the multimedia information.

Claims

1. Method for providing multimedia information related to a calling party to a user of a called party's terminal (MS; MS-B; MS-B2), the method comprising the steps of:
 - 5 - receiving at call setup in the called party's terminal (MS; MS-B; MS-B2) a first message (11) comprising information enabling presenting of multimedia information related to the calling party and an identification of the multimedia information,
 - storing (40) the information enabling the presenting of the multimedia information related to the identification of the multimedia information,
 - 10 - receiving in the called party's terminal (MS; MS-B; MS-B2) a call setup message (21) comprising the identification of the multimedia information,
 - retrieving the multimedia information according to the identification of the multimedia information, and
 - presenting the multimedia information to the user of the called party's terminal
15 (MS; MS-B; MS-B2).
2. Method according to claim 1, wherein the first message (11) comprises the multimedia information and wherein the multimedia information is stored related to the received identification.
3. Method according to claim 1, wherein the first message (11) comprises a network
20 address enabling retrieving of the multimedia information and wherein the network address is stored related to the identification of the multimedia information, the network address is retrieved according to the identification of the multimedia information upon reception of the call setup message and wherein the multimedia information is retrieved (61; 62) using the network address.
- 25 4. Method according to any of the preceding claims wherein the identification of the multimedia information is a calling line identity.

5. Method according to any of the preceding claims, wherein the first message (11) complies with a packet switched protocol and the call setup message is appropriate for setting up a circuit switched call.
6. Method for providing multimedia information related to a called party to a user of a calling party's terminal (MS; MS-A; MS-A3), the method comprising the following steps performed by the terminal (MS; MS-A; MS-A3):
 - storing at call set up an identification of the called party (50),
 - sending a call setup message (21) towards the called party's terminal,
 - receiving a further message (31) comprising information enabling presenting of multimedia information related to the called party and a further identification of the called party,
 - comparing the stored and the further identification of the called party,
 - retrieving (71; 72) the multimedia information according to the result of the comparison, and
 - presenting the multimedia information to the user of the calling party's terminal (MS; MS-A; MS-A3).
7. Method according to claim 6, wherein the further message (31) comprises the multimedia information.
8. Method according to claim 6, wherein the further message (31) comprises a network address enabling retrieving of the multimedia information, and wherein the multimedia information is retrieved (71; 72) using the network address.
9. Method according to any of the claims 6 to 8 wherein the identification of the called party is a called party number.

10. Method according to any of the claims 6 to 9, wherein the call setup message (21) is appropriate for setting up a circuit switched call and the further message (31) complies with a packet switched protocol.
11. Method for providing multimedia information related to a called party to a user of a calling party's terminal (MS-A3) or for providing multimedia information related to a calling party to a user of a called party's terminal (MS-B2), the method being performed by a core network node (CNA2; CN-B3) storing or having access to subscriber data of the called or the calling party, the subscriber data comprising an indication for a demand for presenting the multimedia information and the method comprising the steps of:
- receiving in the core network node (CNA2; CN-B3) a call set up message comprising an identification of the called or the calling party,
 - recognizing according to the subscriber data and the received identification of the called or the calling party the demand for providing the multimedia information, and
 - initiating the providing of the multimedia information.
12. Method for providing by a network server (WS; NS) multimedia information related to a called party to a user of a calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal, the method comprising the steps of:
- receiving during a call setup in the network server (WS; NS) a first message comprising an identification of the called or the calling party,
 - determining according to the received identification information enabling presenting of the multimedia information related to the called or calling party,
 - sending a further message comprising the information enabling the presenting of the multimedia information and an identification of the called or calling party towards the respective other party's terminal.
13. Method for providing by a network database (NDB) multimedia information related to a called party to a user of calling party's terminal or for providing multimedia

information related to a calling party to a user of a called party's terminal, the network database storing information enabling presenting of multimedia information related to the called or the calling party, the information enabling the presenting of the multimedia information being accessible via an identification of the called or the calling party and the method comprising the steps of:

- receiving a request for the information enabling the presenting of the multimedia information, the request comprising the identification of the called or the calling party,

- retrieving the stored information enabling the presenting of the multimedia information using the received identification,

- providing the information enabling the presenting of the multimedia information.

14. Mobile station (MS) for providing multimedia information related to a calling party during a call setup, the mobile station being provided with an interface (RI1) for receiving messages, a processing system (PS1) for processing said messages and an output device (OD) for presenting the multimedia information to a user of the mobile station (MS)

characterized in that,

the processing system (PS1) is adapted to process a received first message (11) comprising information enabling presenting of the multimedia information related to the calling party and an identification of the multimedia information at call set up, the mobile station (MS) is provided with a memory (MD) for storing (40) the information enabling the presenting the multimedia information related to the identification of the multimedia information,

the processing system (PS) is adapted to process a received call setup message comprising the identification of the multimedia information, to retrieve the multimedia information according to the identification of the multimedia information, and to initiate presenting the multimedia information to the user of the mobile station (MS) via the output device (OD).

15. Mobile station (MS) for providing multimedia information related to a called party during a call setup, the mobile station (MS) being provided with an interface (RI1) for receiving messages and an interface (SI2) for sending messages comprising a call set up message (21) towards a called party's terminal, and an output device (OD) for presenting the multimedia information to a user of the mobile station (MS),
5 characterized in that
it comprises a processing system (PS1) adapted to store at call set up a first identification of the called party, to process a received further message (31) comprising information enabling presenting of the multimedia information and a
10 further identification of the called party, to compare the first and the further identification of the called party and, according to the result of the comparison, to initiate presenting the multimedia information to the user of the mobile station (MS) via the output device (OD).
16. Core network node (CNN) for providing of multimedia information related to a called
15 party to a user of calling party's terminal or for providing of multimedia information related to a calling party to a user of a called party's terminal, the core network node(CNN) comprising
means (SDS) for storing or providing access to subscriber data of the called or the calling party, the subscriber data comprising an indication for a demand for
20 presenting the multimedia information, the core network node comprising an interface (SI2) for sending messages, an interface (RI2) for receiving messages, and a processing system (PS2) for processing said messages, the processing system (PS2) being adapted to process a received call set up message comprising an identification of the called or the calling party, to recognize according to received identification of
25 the called or the calling party the demand for the providing of the multimedia information, and to initiate the providing of the multimedia information.
17. Network server (NS) for providing multimedia information related to a called party to a user of a calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal, the network server (NS)

comprising interfaces (RI3; SI3) for sending and receiving messages and a processing system (PS3) for processing said messages, the processing system (PS3) being adapted to process a first message received during a call setup and comprising a first identification of the called or the calling party, to determine according to the received first identification information enabling presenting of the multimedia information related to the called or the calling party and a further identification of the called or calling party, and to initiate a sending of a further message comprising the information enabling the presenting of the multimedia information and the further identification of the called or the calling party towards the respective other party's terminal.

18. Network database (NDB) for providing multimedia information related to a called party to a user of a calling party's terminal or for providing multimedia information related to a calling party to a user of a called party's terminal, the network database (NDB) comprising a storage (DS4) for storing information enabling presenting of multimedia information related to a subscriber, the information enabling the presenting of the multimedia information being accessible from the storage via an identification of the subscriber, the network database (NDB) further comprising an interface (SI4) for sending and an interface (RI4) for receiving messages and a processing system (PS4) for processing said messages, the processing system (PS4) being adapted to process a received request for the information enabling the presenting of the multimedia information, the request comprising the identification of the subscriber, to retrieve the stored information enabling the presenting of the multimedia information from the storage (DS4) using the received identification of the subscriber, and to provide the information enabling the presenting of the multimedia information.

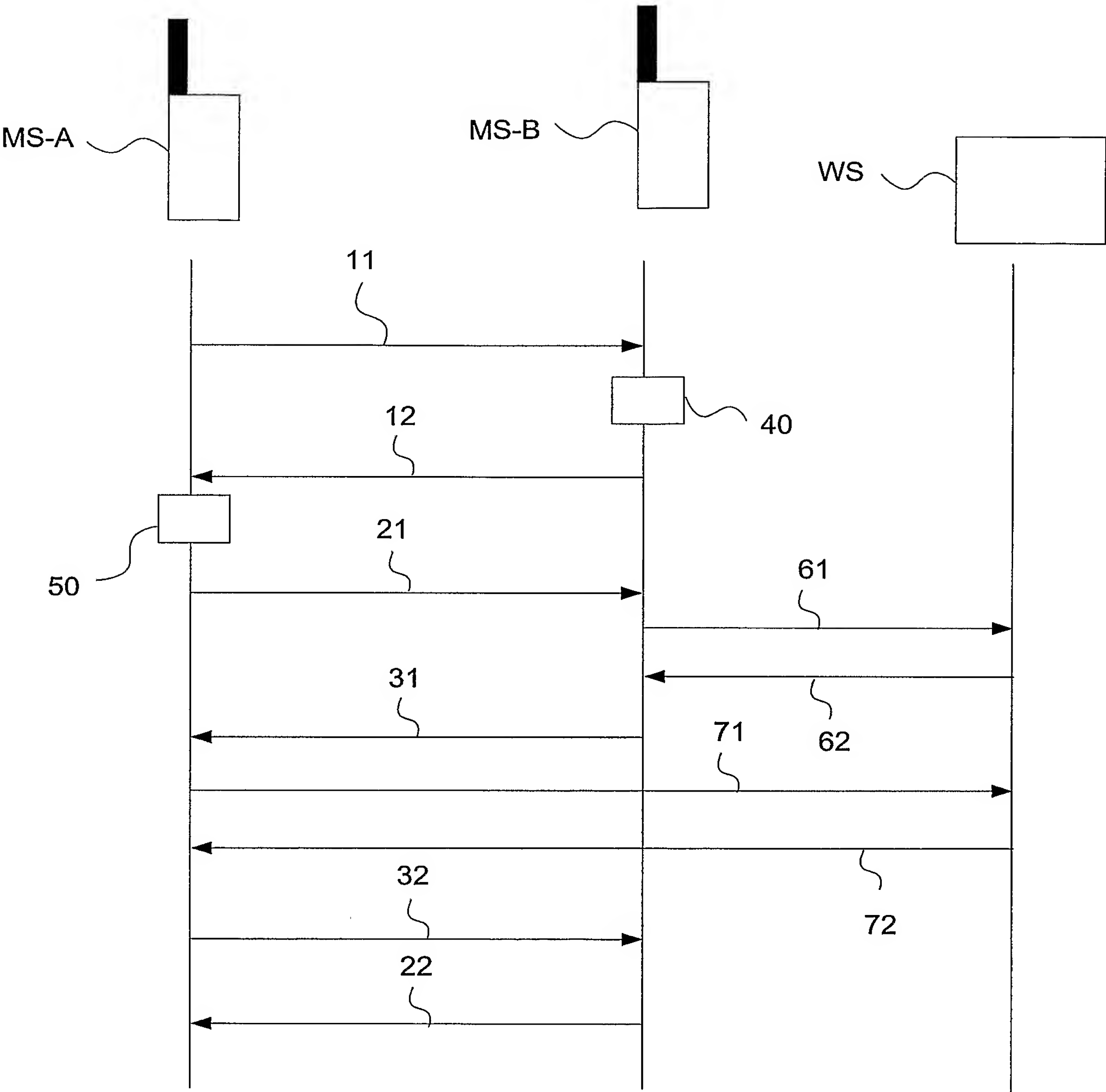
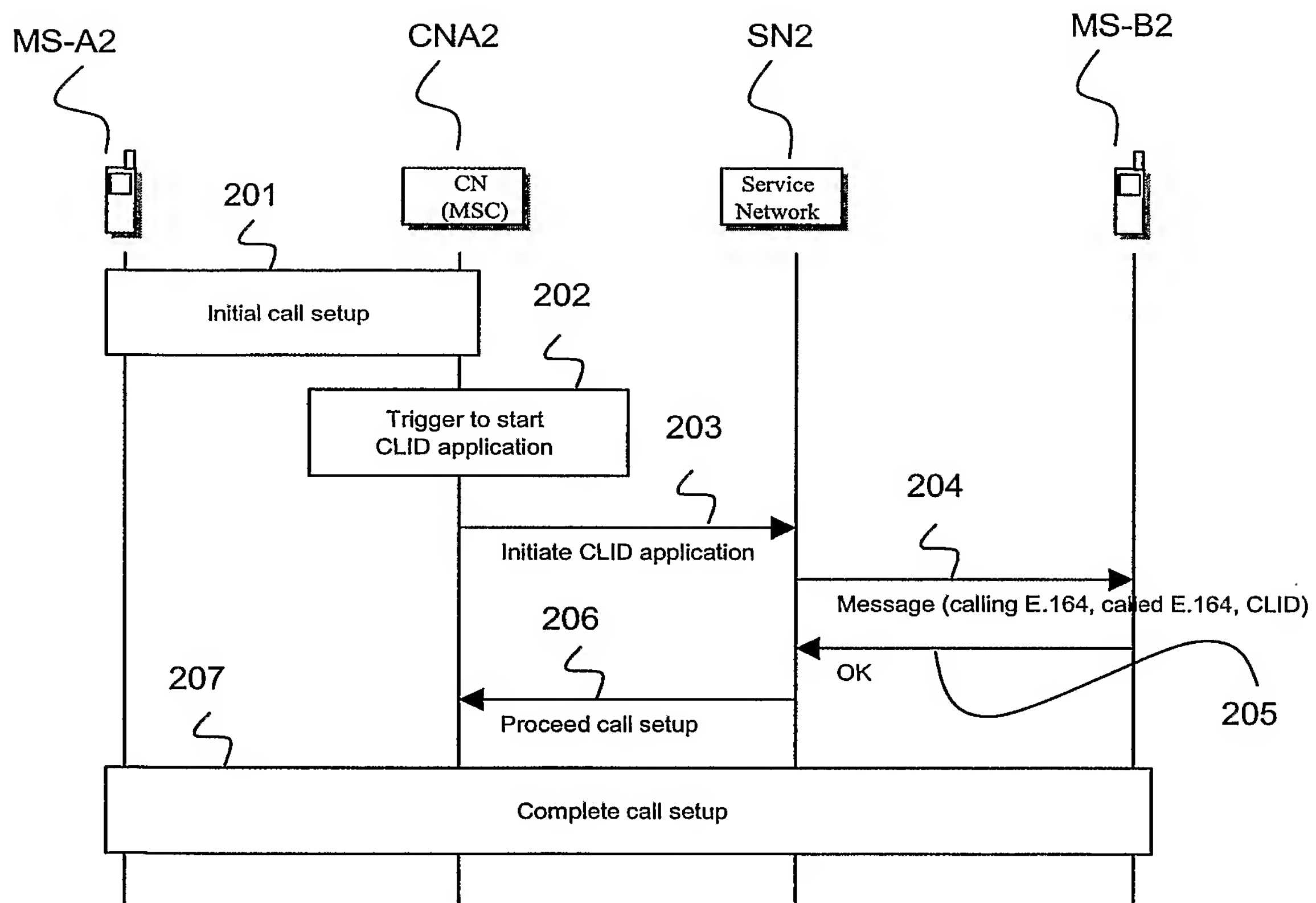
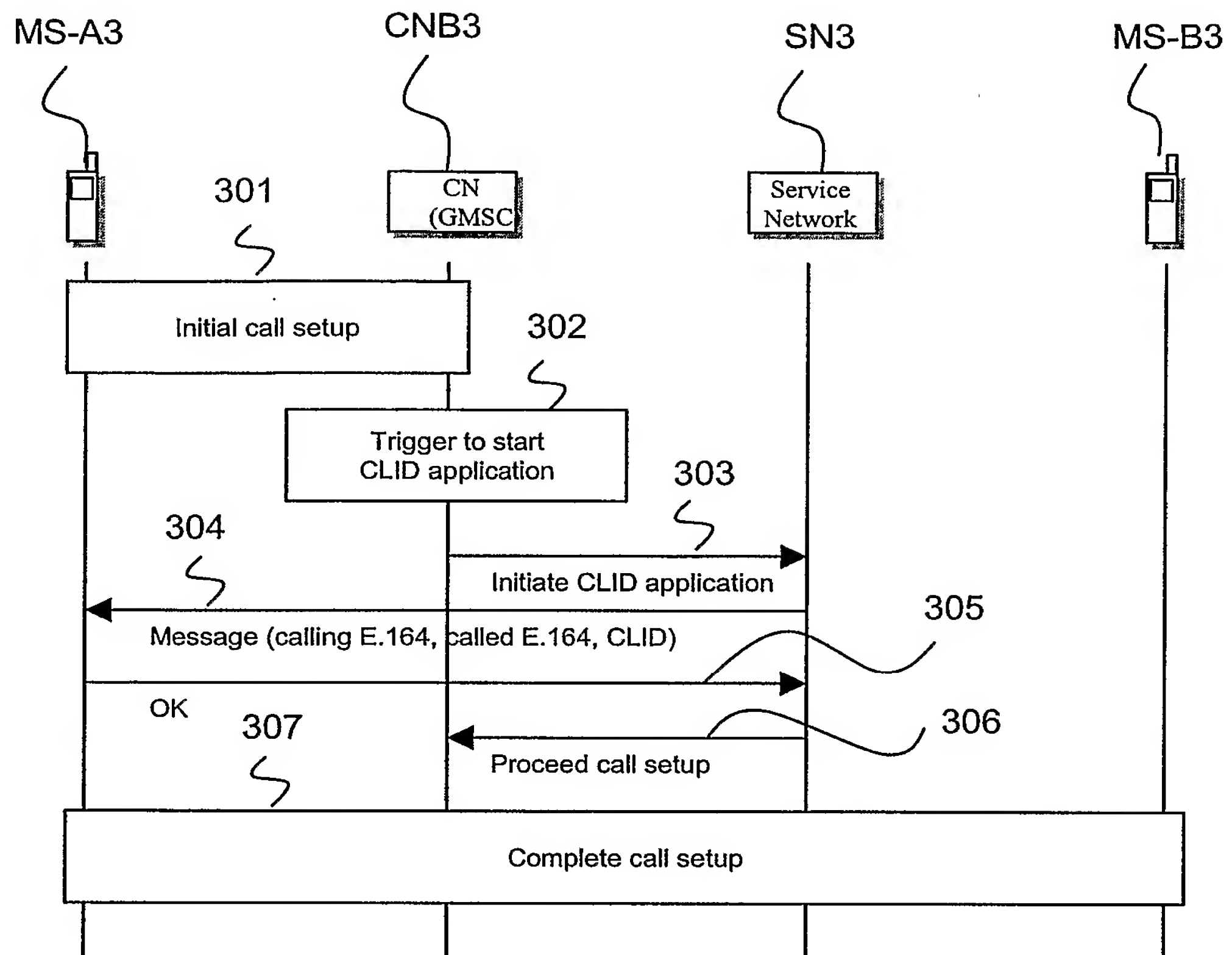


Fig. 1



-Fig. 2-



-Fig. 3-

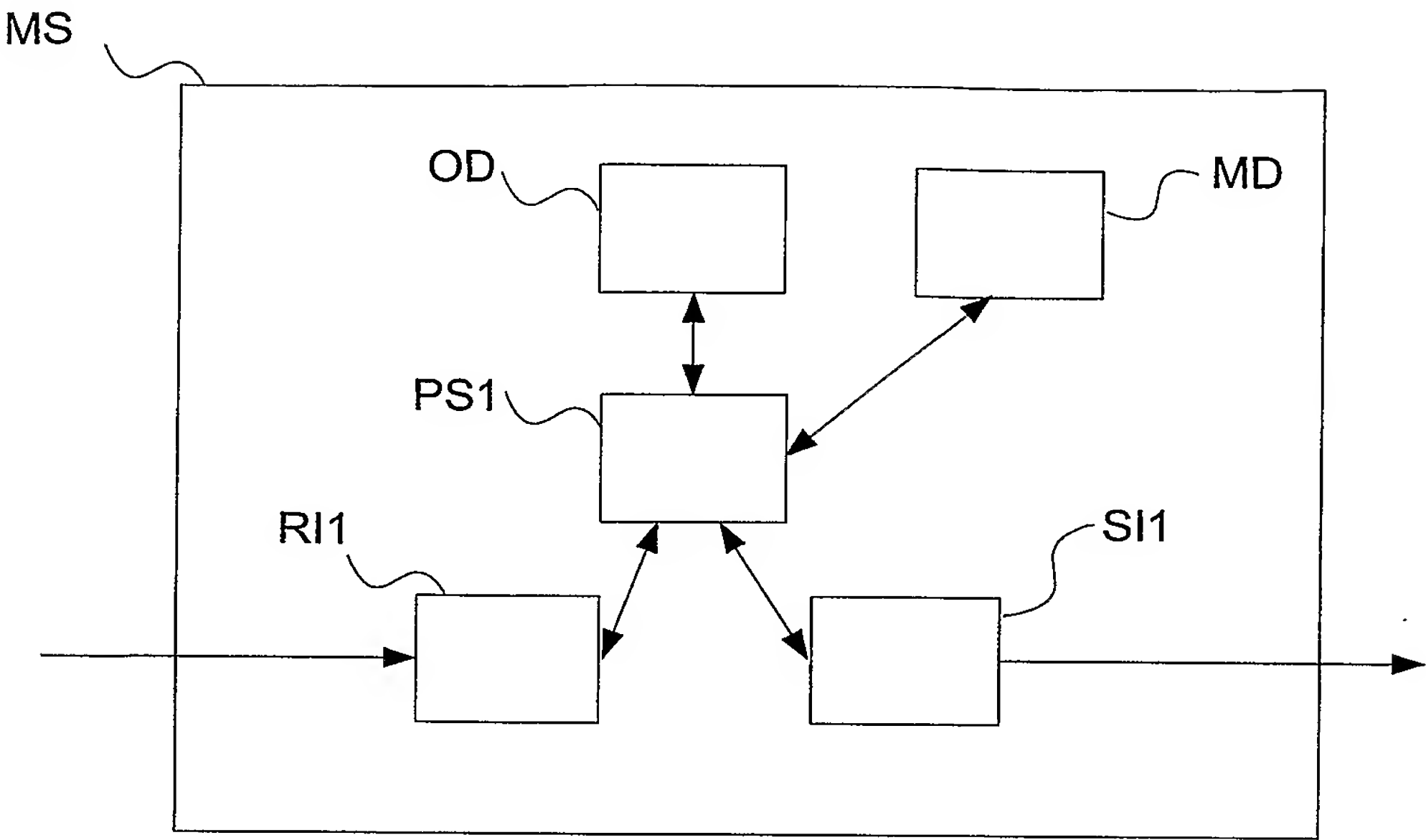


Fig. 4

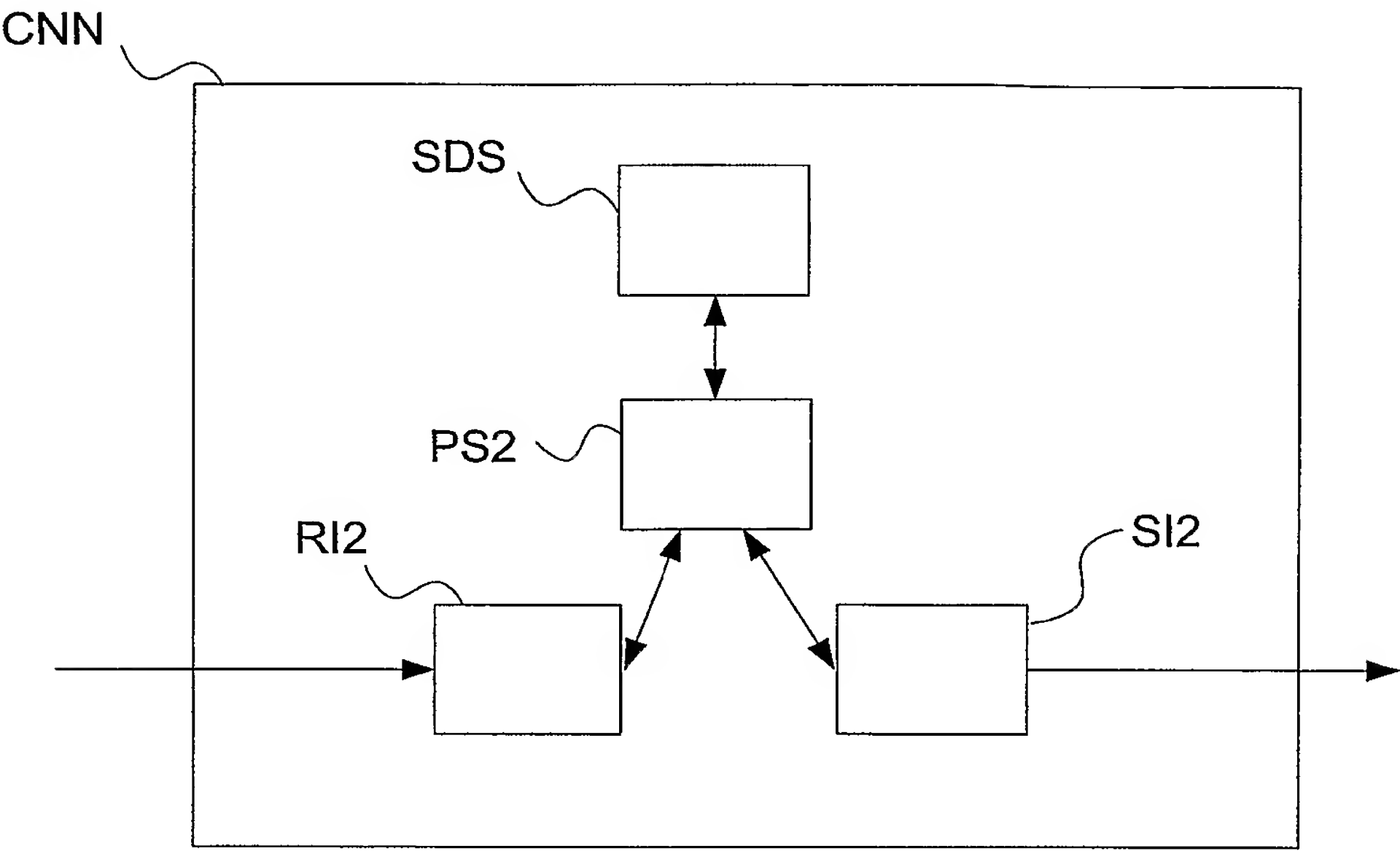


Fig. 5

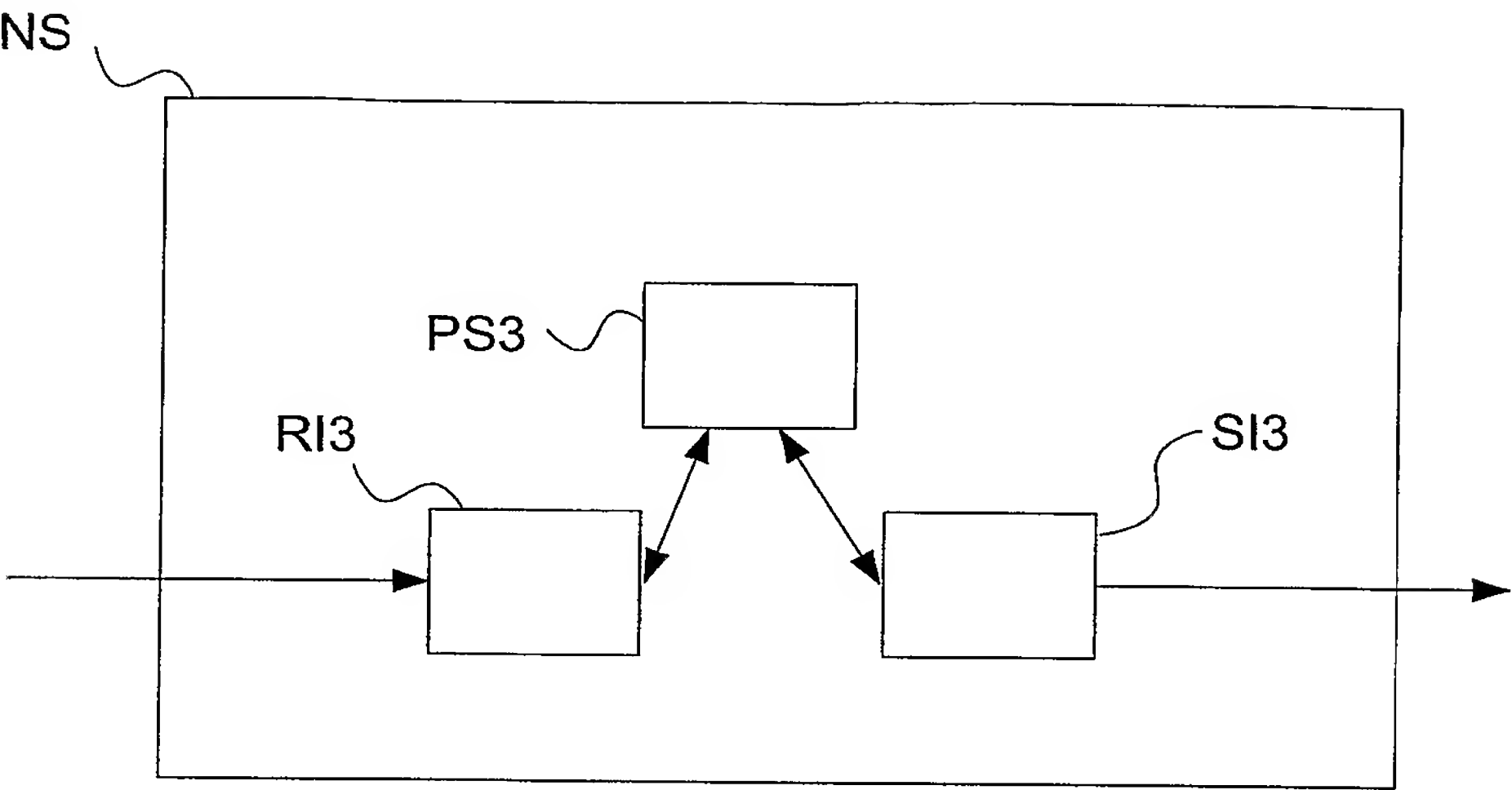


Fig. 6

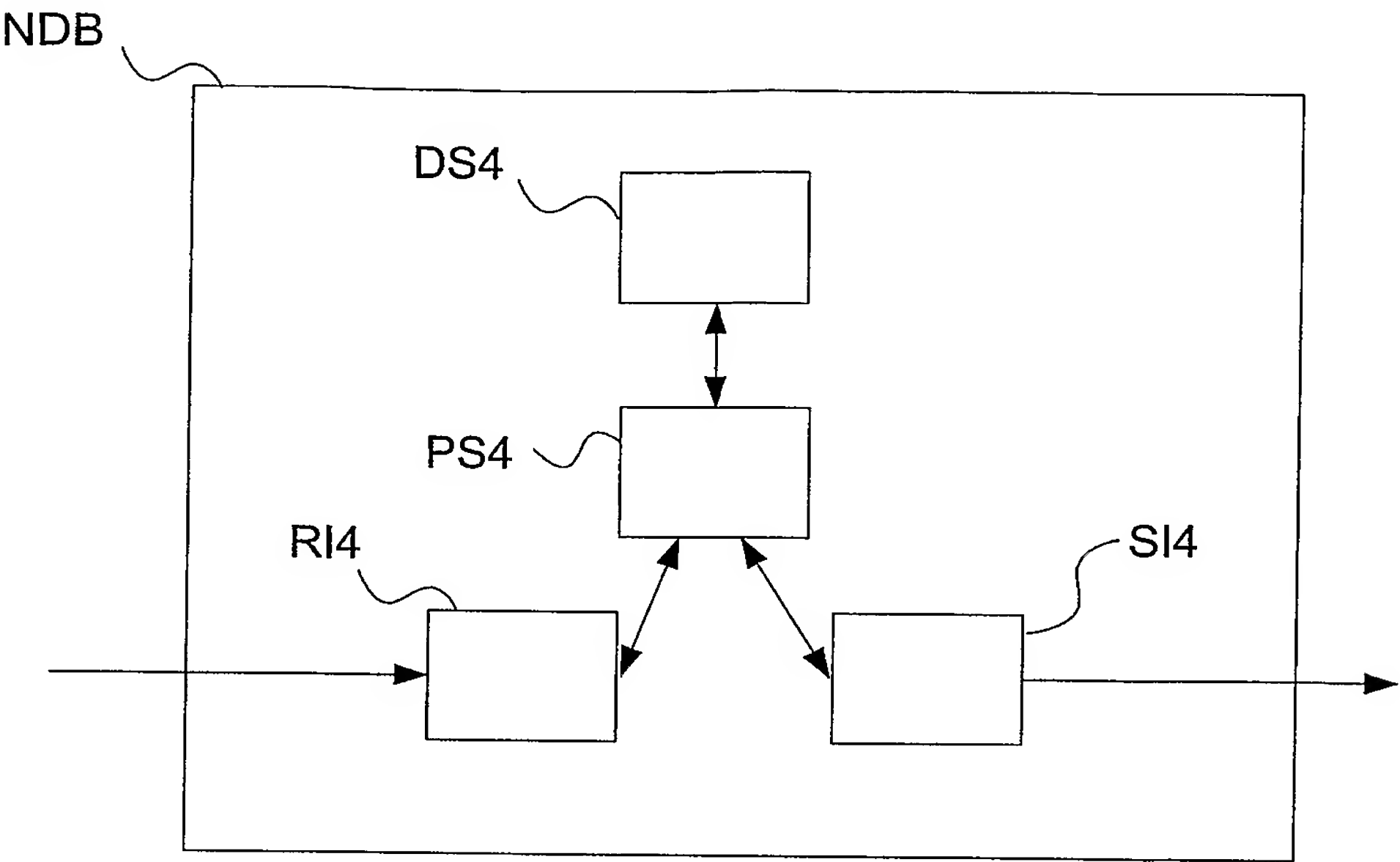


Fig. 7

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/12541

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04M1/57 H04Q7/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04M H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/41405 A (VERSPAGET JOSEPHUS FRANCISCUS) 7 June 2001 (2001-06-07) page 1, line 21 - page 10, line 4 figures 1-3	1-18
X	EP 0 973 309 A (SIEMENS INF & COMM NETWORKS) 19 January 2000 (2000-01-19) abstract column 2, line 1 - line 46 column 3, line 24 - column 6, line 9 figures 1-3	1-18
X	EP 1 296 499 A (SAMSUNG ELECTRONICS CO LTD) 26 March 2003 (2003-03-26) abstract column 1, line 40 - column 2, line 41 column 3, line 4 - column 8, line 57 figures 1-4	1-18

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

21 July 2004

Date of mailing of the international search report

30/07/2004

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/12541

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 2003/032414 A1 (MELAKU ET AL) 13 February 2003 (2003-02-13) abstract paragraph '0004! - paragraph '0011! paragraph '0021! - paragraph '0044! figures 1-5</p> <p>-----</p>	1-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/12541

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